

Future Challenges and Main Drivers for the Electricity Sector

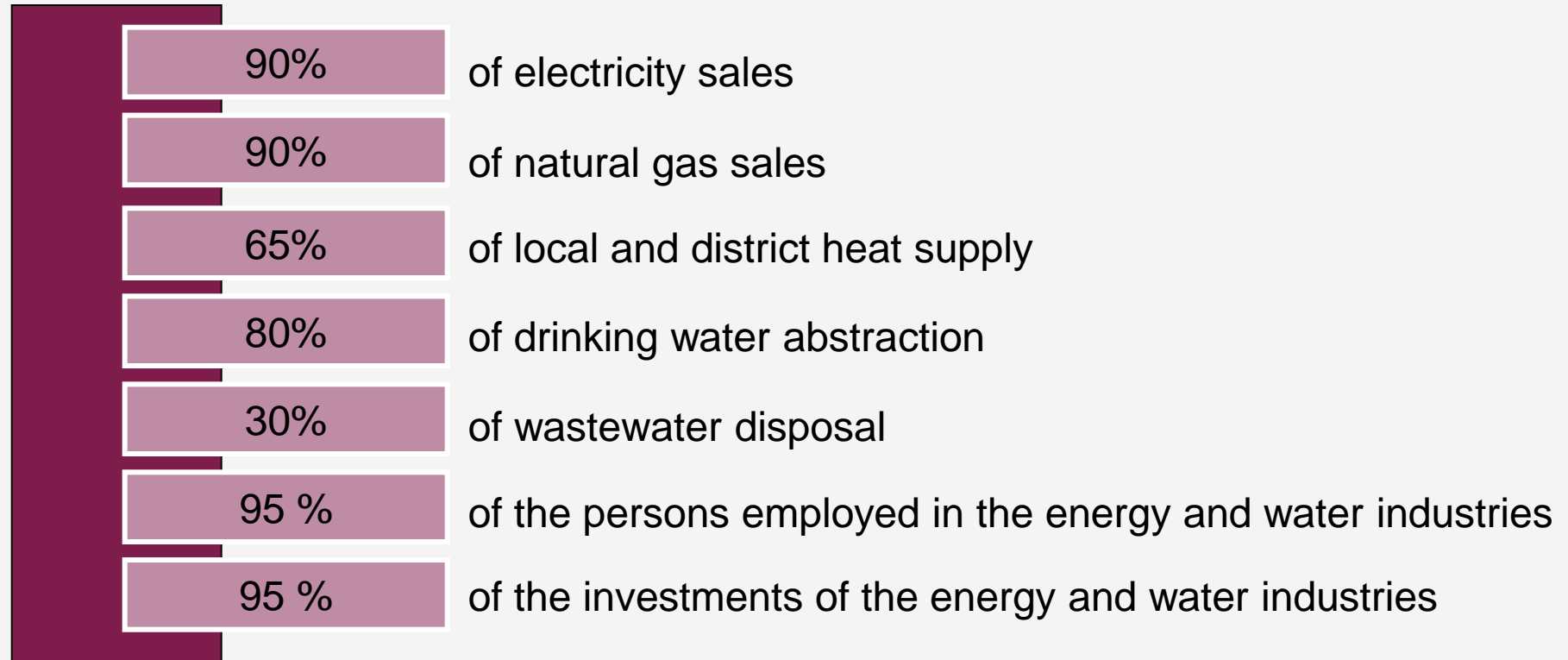
Marcel Steinbach, BDEW
ENTSO-E Baltic Sea Regional Stakeholder
Workshop
10. April 2013

Introducing BDEW: The German Association of Energy and Water Industries

- represents the **interests** of the energy and water industries towards the government and the public
- is the **main contact** for decision-makers in politics, media and administrative bodies as well as in industry, science and society
- acts as **competent service provider** to over 1,800 member companies on all energy, water and wastewater issues
- is the **think tank** in terms of energy, water and wastewater issues
- BDEW Energy Trading Department coordinates positions **of over 800 market participants** in Germany

The leading Association of the energy and water industries – facts and figures*

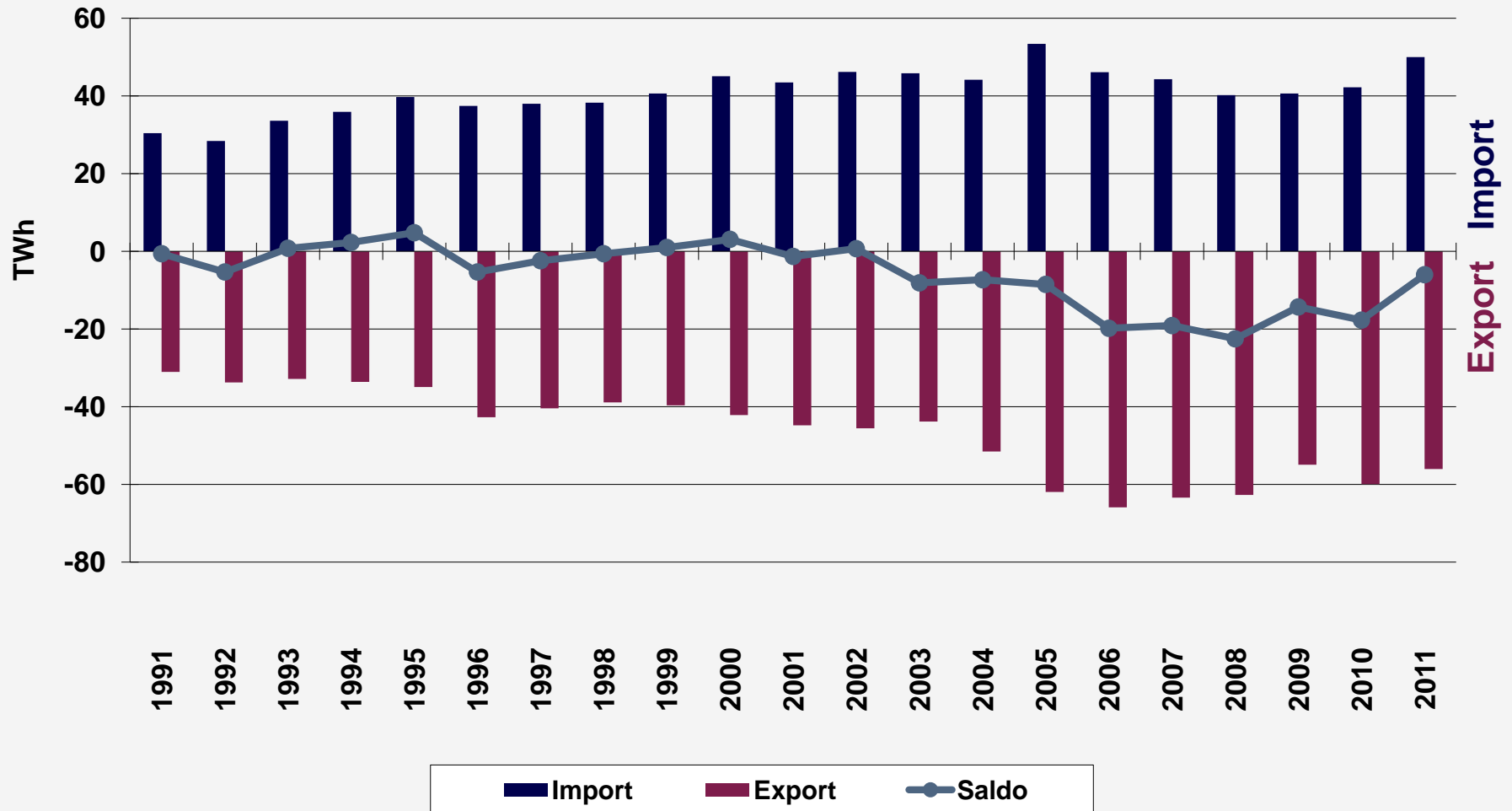
1,800 member companies representing



The total sector stands for a turnover of 130 billion Euros.**

* Data for 2010; ** Turnover from electricity and drinking water sales to end consumers as well as from end consumers' wastewater disposal

Cross border imports and exports in Germany since 1991



Quelle: BDEW

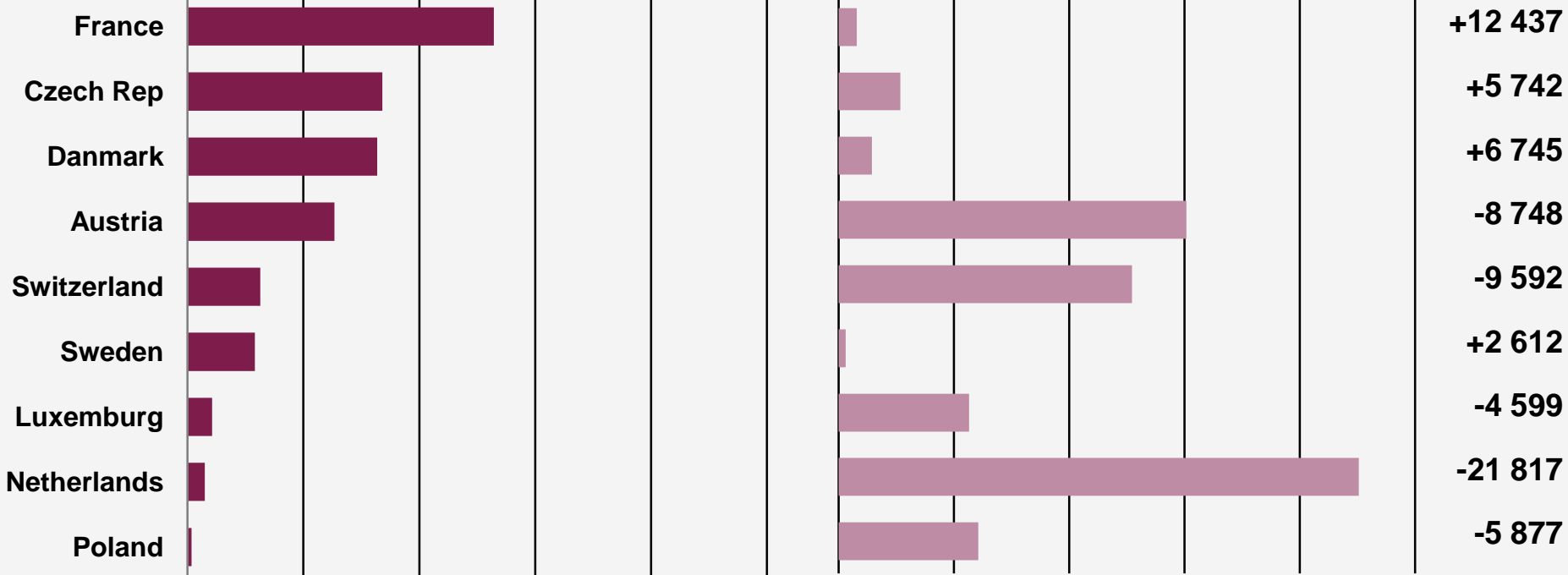
Cross border imports and exports in 2012

2012 (Strommengen in Mio. Kilowattstunden)

Physical Flows Imports

Exports

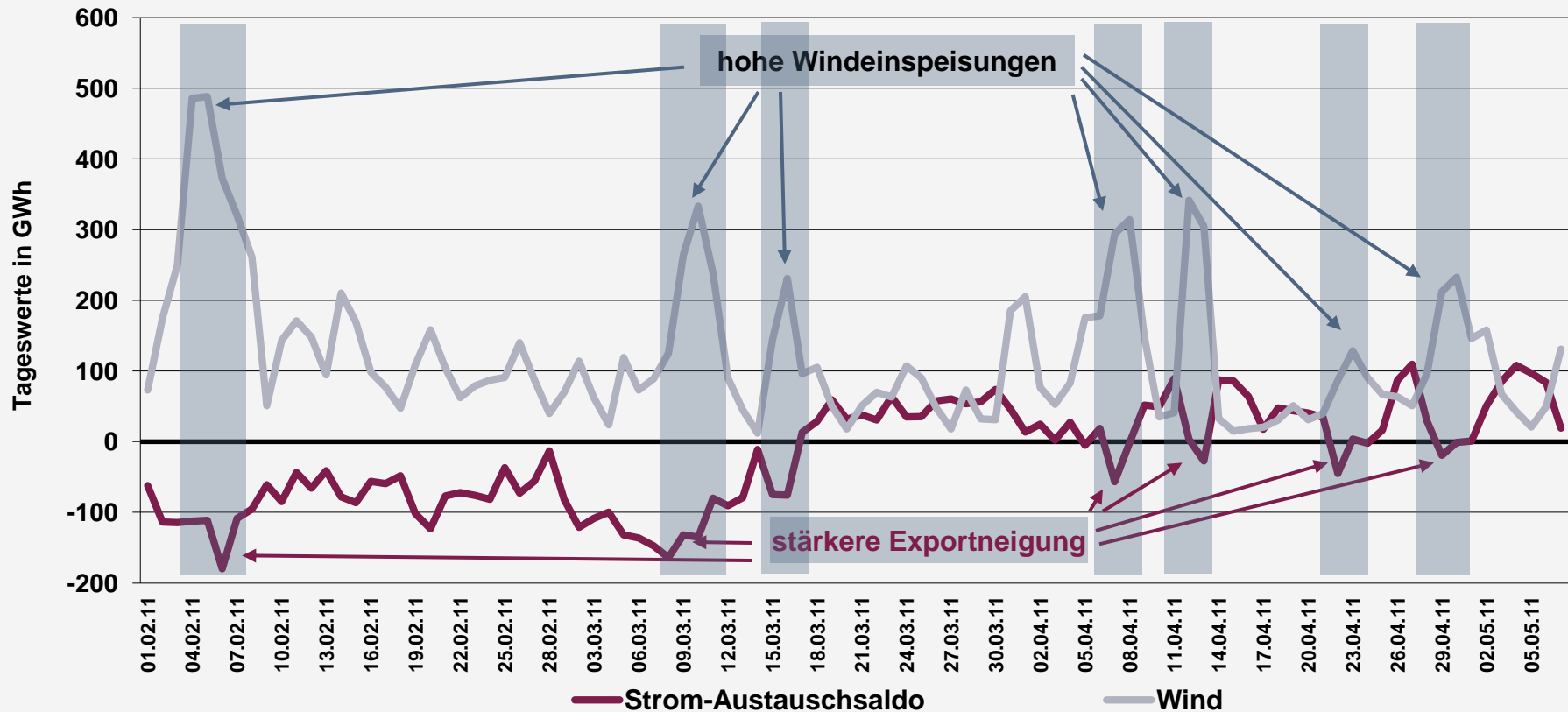
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Quelle: BDEW, Stand: 01/2013

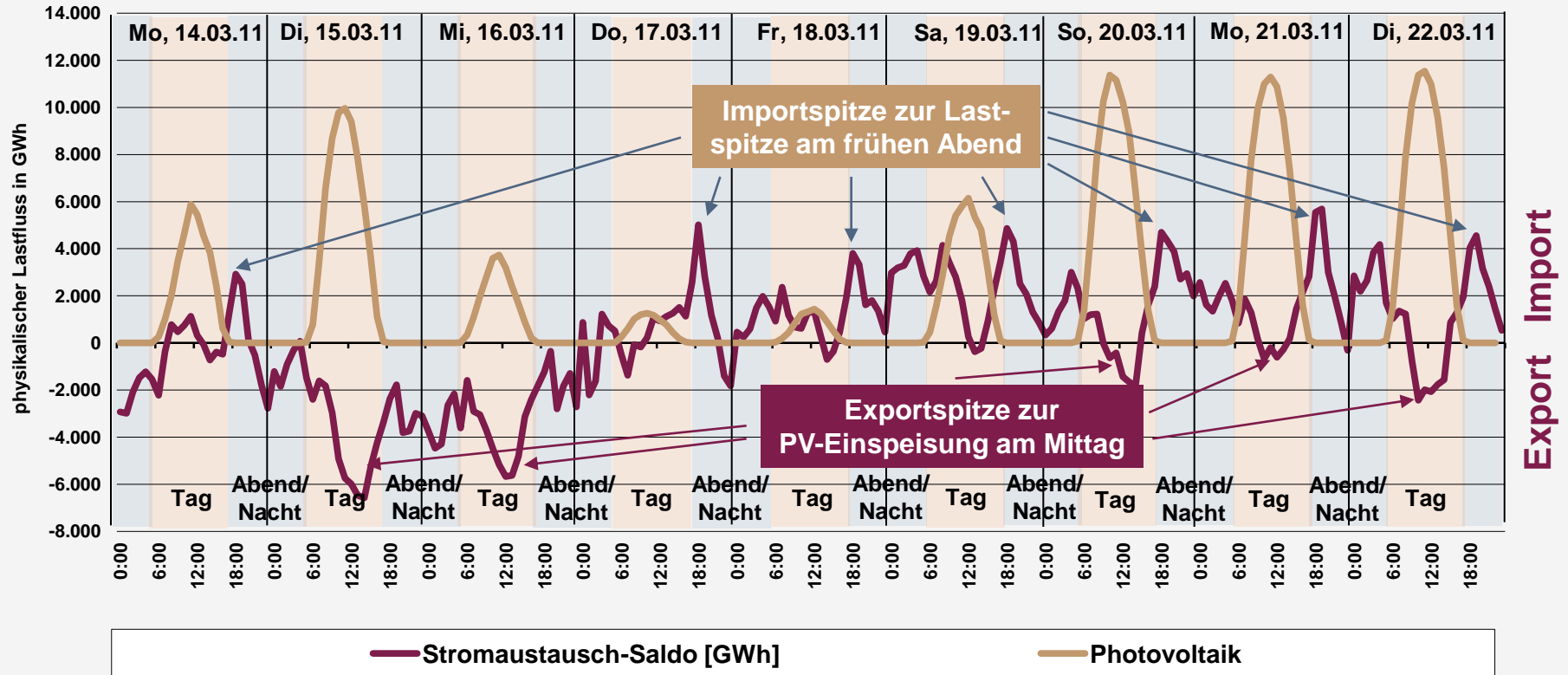
* vorläufig

Higher production from wind turbines increases exports (physical)



Quellen: EEX, Übertragungsnetzbetreiber, entso-e, BDEW (eigene Berechnung)

Effects on imports/ exports from production from solar generation





The effect becomes visible in the intraday flows


Quelle: BDEW





Load Flows in Central Europe: Spring 2011, Working day, Noon, strong Wind and sunny

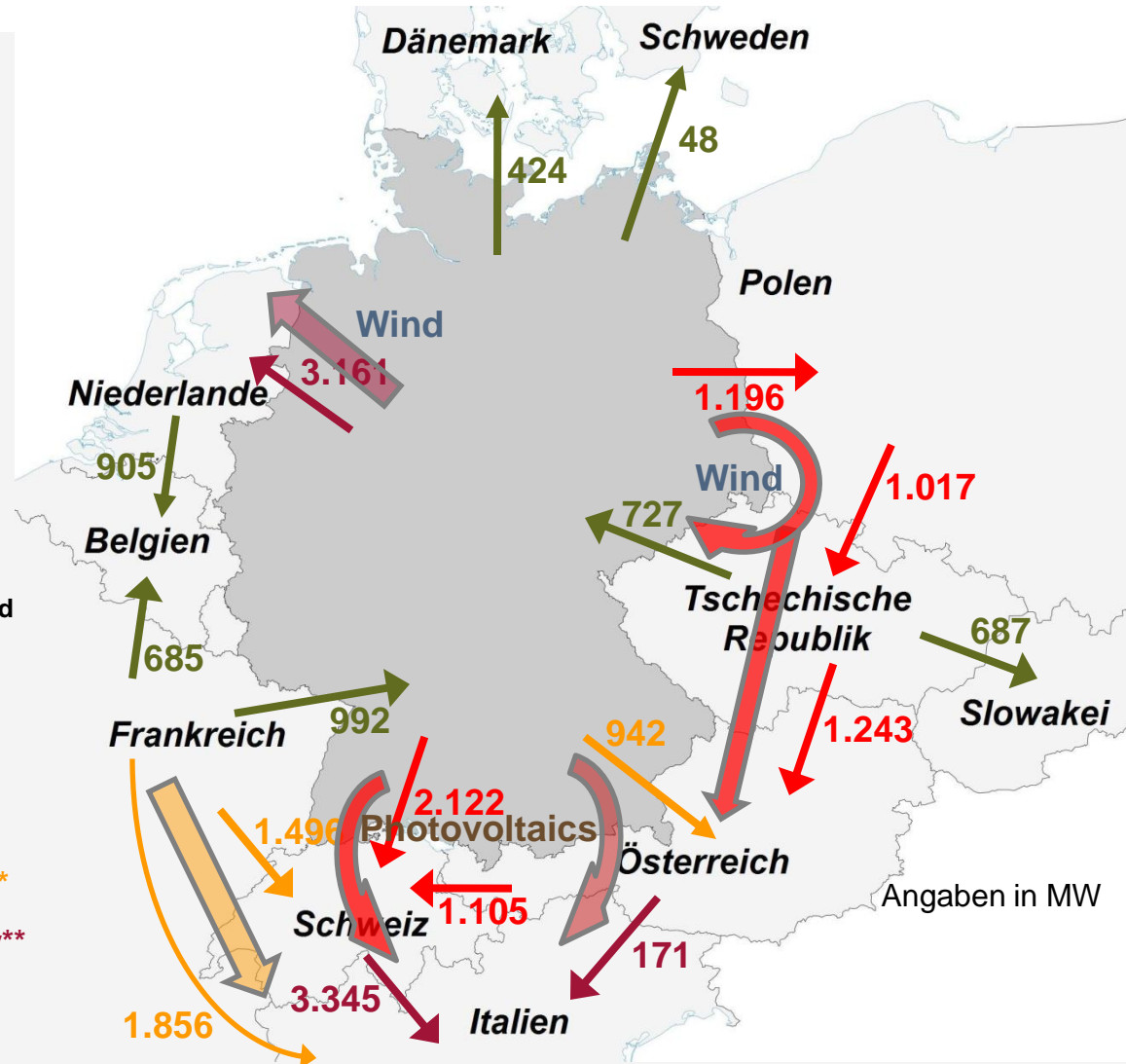
**Spring 2011, Working day, Noon,
strong Wind and sunny**
(Friday, April 8th, 2011, 13:00h)

Load: 73.088 MW 
95% of Peak Load*

Wind: 15.710 MW 
57% of inst. capacity wind

PV: 11.529 MW 
66% of inst. Capacity PV

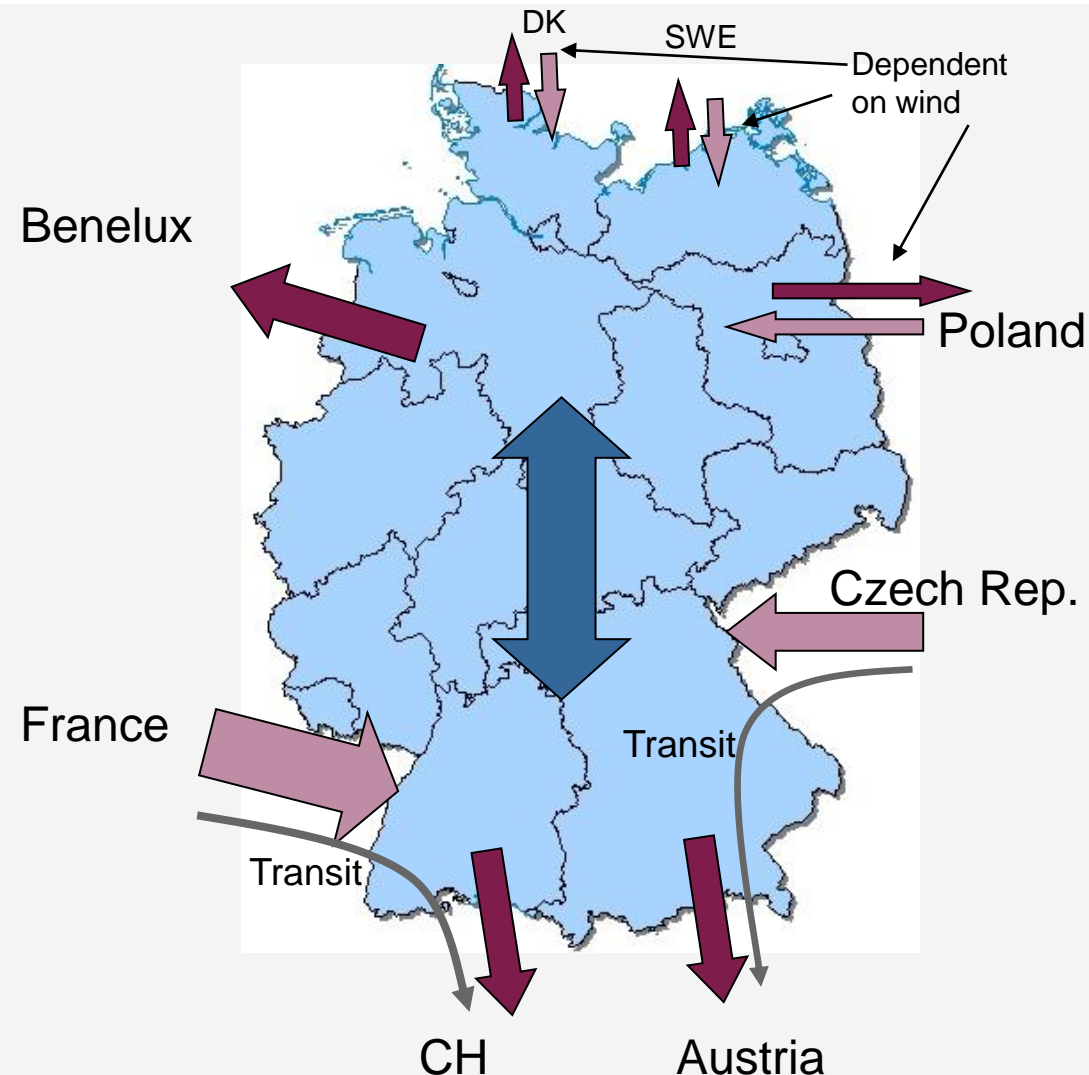
-  <40 % of Net Transfer Capacity**
-  40-70 % of Net Transfer Capacity**
-  70-100 % of Net Transfer Capacity**
-  >100 % of Net Transfer Capacity**



* Jahreshöchstlast 2008 mit 76.800 MW ** NTC-values Summer 2010

Quellen: BDEW, entso-e

Schematic Display of the usually existing load flows to neighbouring countries

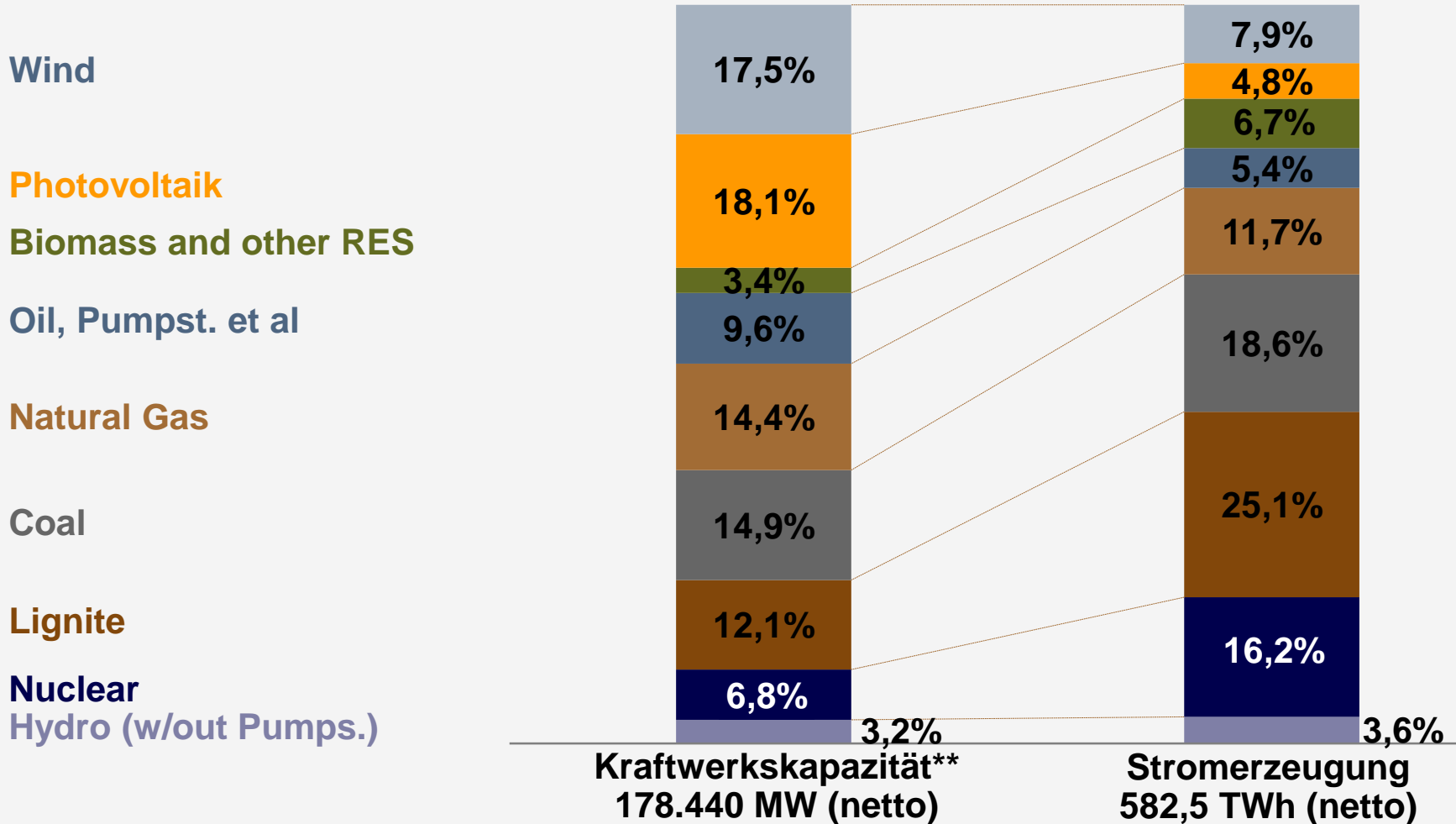


- The structure of load flows is stable.
- Major influences are wind, increasingly PV feed-in, base load generation and market prices.
- High Wind load: stronger electricity flows to BLX and PL, less electricity flows from F and CZ, export tendency.
- Base load power plants determine the level of load flows, but do not change the basic structure of load flows (capacity shutdown means higher load flows from neighbours and less load flows to neighbours).
- **Market prices determine the usage of the power plants and therefore also load flows; for certain periods of time a central European merit order exists.**

Preliminary Results and what does it mean for the market design

- The German market **is highly connected** with neighbouring markets and has been so even before market coupling
- Flows tend to be **seasonal** and **are affected by RES generation** to some extent
- In this **complex environment**, market participants need to adapt quickly and they have adapted
- **Some ideas:**
 - ➔ **Market integration is unavoidable**
 - ➔ **Integrated markets essential for transition to carbon neutral**
 - ➔ **The electricity market will continue to change**
 - ➔ **Markets will anticipate, innovate and facilitate transition**
 - ➔ **Large zones are more efficient than small zones**

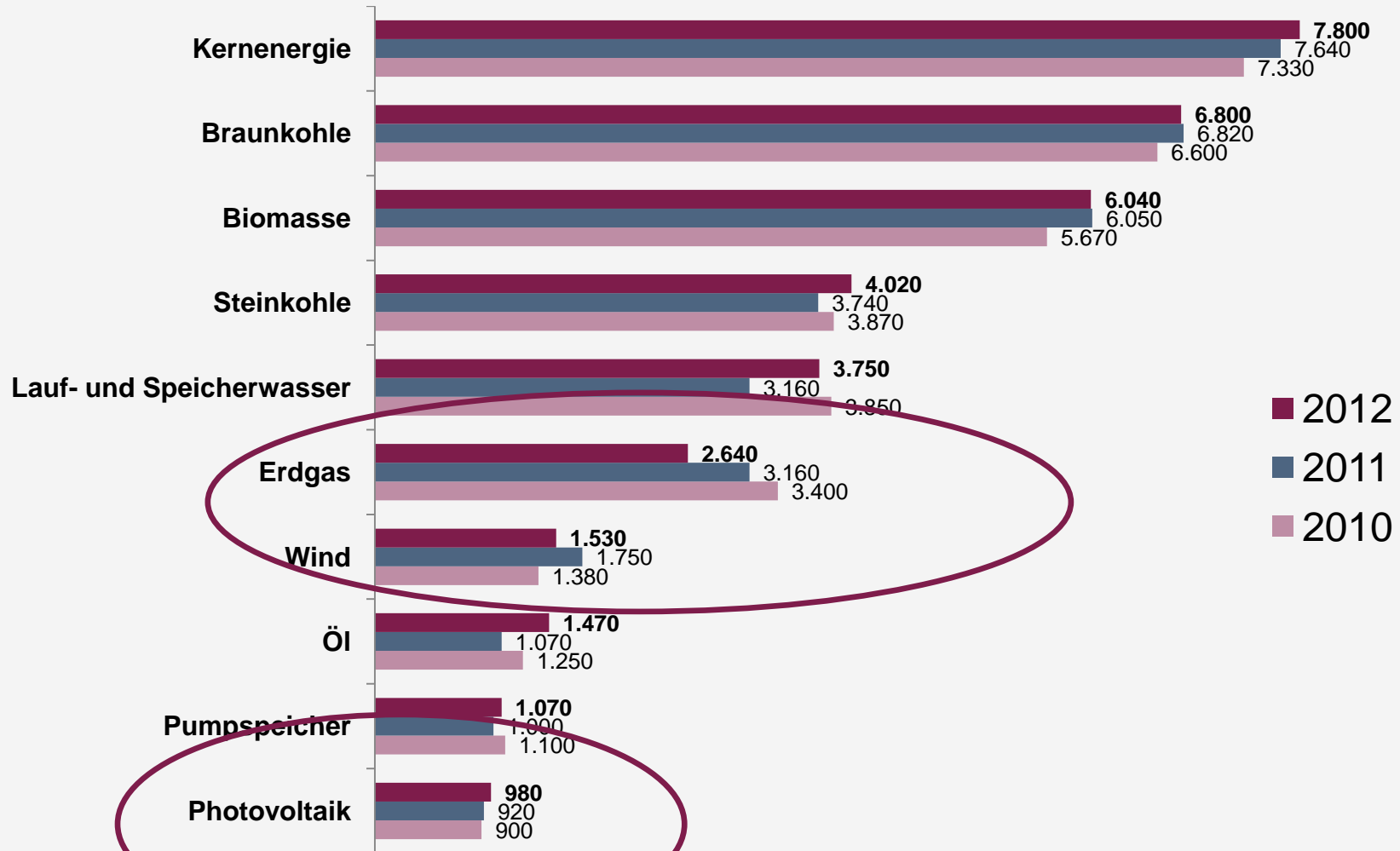
Installed Capacity vs. Actual Generation 2012*



Quelle: BDEW, Stand 03/2013

* vorläufig **zum 31.12.2012

Full Load Hours¹⁾²⁾ 2010 bis 2012



¹⁾ Werte 2012 vorläufig

²⁾ bedeutsame unterjährige Leistungsveränderungen sind entsprechend berücksichtigt

Quelle: BDEW

Wholesale Prices at EEX

Forward Market (01.01.2007 – 01.03.2013)



Quelle: EEX

Development of Consumer Prices

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Quellen: Statistisches Bundesamt (FS 17, R 2), BDEW (Strom 3.500 kWh) Indexierte Werte: 2005 = 100, Stand: einschl. 12/2012

Die Grafik zeigt die Preisentwicklung (indexierte Preissteigerungsraten, **keine absoluten Brennstoffpreise**) bei Heizöl, Gas, Strom und Fernwärme für Haushalte seit Januar 2001 bezogen auf das Basisjahr 2005 (Jahresdurchschnitt).

Capacity Mechanisms and Market Design: Definition of a Sequence

2012/13

- Security of Supply with focus on Southern Germany („Kaltreserve“)
- transparent, no discrimination, cost-efficient
- No intervention desired

Ab 2013
(evtl. 2014)

- Implementation of a Strategic Reserve
- Parallel working on proposals for a new sustainable market design

2015/16

2020/22

- 2015/16 Expected Decision for a new market design
- Taking into account RES, conventional, storage, EU-Integration, security of supply
- 2020/22 Getting into force



Three Deliverables

Implementation of a Strategic Reserve



Position on the future of Renewable Energy Sources



Proposing a path towards a sustainable energy market design

Thank you very much for your attention!

bdew

Energie. Wasser. Leben.

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